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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/110,018

07/02/1998

MAKOTO SATOH

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07/30/2002

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EXAMINER

WHIPKEY, JASON T

ART UNIT

PAPER NUMBER

2612

DATE MAILED: 07/30/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/110,018

Applicant(s)

SATO ET AL.

Examiner

Jason T. Whipkey

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 June 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) 7-11, 18-22 and 29-33 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 12-17 and 23-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 July 1998 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2 and 7. 6) ☐ Other: _____

DETAILED ACTION

Restriction

1. Claims 7-11, 18-22, and 29-33 withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 6.

Drawings

- ✓ 2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference signs not mentioned in the description: 31 in Figure 4A, 78 in Figure 8, and 86 and 87 in Figure 9. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference signs in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

3. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

- ✓4. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.
- ✓5. The disclosure is objected to because of the following informalities:
- ✓▪ The phrase "In this embodiment, as user's operation upon selecting photography images serving as storage targets" (page 15, lines 5-8) is unclear.
 - ✓▪ Line 18 on page 16 identifies switch 104 as being an exposure setting switch, but lines 13-14 identify switch 104 as a display change switch. On line 23 of page 22, switch 103 is identified as a display change switch.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

- ✓7. Claims 1-6 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to

reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

Regarding claim 1, line 7 claims that the invention has a memory. After compression and encoding, the frames are stored in "said memory" (line 16). However, the specification teaches that compressed and encoded frames are stored in a memory separate from the memory in which the first-resolution image data and second-resolution image data are stored.

In the abstract, high- and low-resolution image data are stored in M2 to M7 of the buffer memory (lines 10-12). After the high-resolution image data are compressed and encoded, they are stored in C1 to C3 of a main memory (lines 14-16).

In the summary of the invention, a first storage means is used to store the high- and low-resolution image data (page 4, lines 13-14). A second storage means is used to store the compressed and encoded image data (page 4, lines 25-26).

In the first embodiment, high-resolution image data are stored in portions M2 to M4 of buffer memory 11 (page 11, lines 12-14). Compressed and encoded data are stored in positions C1 to C3 in a main memory 21 (page 11, lines 14-17).

In the second embodiment, D-RAM 123 stores a signal from the CCD 121 and is used as an image processing buffer (page 17, lines 3-4). Flash memory 130 is used for storing compressed images compressed by image compression expansion unit 126 (page 17, lines 14-16).

The third embodiment is similar to the second embodiment.

The examiner requests that the applicant provide a correlation between the single memory device in claim 1 and the specification.

Claims 2-6 are rejected as being dependent on claim 1. Additionally, claims 4 and 5 make reference to "said memory."

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

- ✓ 9. Claims 2, 6, 15, and 26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2 recites the limitation "said storage device" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim. For examination purposes, the examiner will assume the applicant intended to claim "said storage control device."

Claim 6 recites the limitation "the stored middle-resolution image data" in lines 3-4. There is insufficient antecedent basis for this limitation in the claim, as the middle-resolution image data is not claimed as being stored. For examination purposes, the examiner will assume the applicant intended to claim the middle-resolution image data as being stored prior to display.

Claim 15 recites the limitation "the display control step" in lines 5-6. There is insufficient antecedent basis for this limitation in the claim. For examination purposes,

the examiner will assume the applicant intended to claim "the step of displaying the low-resolution image data."

Claim 26 recites the limitation "the display control step" in line 6. There is insufficient antecedent basis for this limitation in the claim. For examination purposes, the examiner will assume the applicant intended to claim "the step of displaying the low-resolution image data."

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

11. Claims 1, 4, 6, 12, 15, 17, 23, 26, and 28 are rejected under 35 U.S.C. 102(e) as being anticipated by Anderson.

Regarding claims 1, 12, and 23, Anderson discloses an image capture unit with an image sensor 224. All processing is executed by CPU 344 (column 5, lines 62-65). A dynamic random-access-memory is used throughout processing. DRAM 346 includes RAM disk 532, system area 534, and working memory 530 (column 5, lines 25-27). Working memory 530 includes input buffers 538 and a frame buffer 536 (column 5, lines 41-45).

After shutter button 418 is pressed, raw image data of a first resolution is stored in input buffers 538 of DRAM 346 (column 8, lines 59-60). The raw image data is used to create a thumbnail 606 of a second resolution (lower than the first resolution), which is stored in working memory 530 of DRAM 346 (column 9, lines 23-26). Since CPU 344 controls all processing and storage control is needed to use DRAM 346, it is inherent that CPU 344 acts as a storage control device. RAM disk 532 holds the final, processed image file 600 (column 10, lines 28-29). Additionally, RAM disk 532 has a file system (column 5, lines 32-35). Therefore, RAM disk is capable of handling multiple storage files 600.

LCD controller 390 controls LCD display 402. Thumbnail 606 is displayed (column 11, lines 43-46 and 57-61 and Figure 8). These thumbnails may be retrieved from working memory (column 12, lines 44-47).

Since CPU 344 controls all processing, it is inherent that it performs all compression and encoding taught by Anderson. The raw data (i.e., the first resolution data) of each image captured is compressed into JPEG format (column 7, lines 42-44). Different images of the same resolution are compressed to form compressed images of

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roughly the same size (column 7, lines 45-50), indicating the same compression ratio is used. The compressed image data 604 is combined with thumbnail 606 and scrennail 608 to form the enhanced image data file shown in Figure 6, which is transferred to RAM disk 532 of DRAM 346 (column 10, lines 20-24).

When the user browses images stored and selects a particular image, the compressed image data 604 is retrieved from image file 600 and displayed (column 13, lines 25-29). This image data is first retrieved from removable memory 354 (column 13, lines 9-13) and placed in DRAM 346, which now uses the input buffers as speculation buffers 850 (column 14, lines 26-30). Speculation buffers 850 decompress compressed images 604 (column 14, lines 38-41).

Regarding claims 4, 15, and 26, when the user browses thumbnail images stored and selects a particular image, the compressed image data 604 is retrieved from image file 600 and displayed (column 13, lines 25-29). This image data is first retrieved from removable memory 354 (column 13, lines 9-13) and placed in DRAM 346 which now uses the input buffers as speculation buffers 850 (column 14, lines 26-30). Speculation buffers 850 decompress compressed images 604 (column 14, lines 38-41).

Regarding claims 6, 17, and 28, a scrennail image 608 is generated (column 9, lines 9-12) and saved as part of image data file 600 (column 10, lines 20-24).

Scrennail image 608 is displayed while compressed image 604 is being decompressed for display (column 13, lines 25-29).

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

14. Claims 2, 3, 13, 14, 24, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson in view of Moronaga.

Regarding all of these claims, Anderson discloses an image capture unit as described in the above rejection of claim 1. However, Anderson is silent with regard to transmitting and storing a selected image in non-volatile memory.

Moronaga shows a still video camera 200 in Figure 7. In copy mode, the camera is capable of reading data from internal memory 213 into external memory 231 in

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memory cartridge 230 (column 57-62). The data to be transmitted to external memory 231 is selected by the user (column 22, lines 46-50). As described in column 7, lines 7-10, the advantage to this configuration is that a memory cartridge is not necessary to take photographs. For this reason, it would have been obvious to have Anderson's image capture unit store a selected image in removable memory 354. An advantage to transmitting images is that it allows the user to permanently store images outside the camera while not wasting external storage space with unwanted images. For this reason, it would have been obvious to have Anderson's image capture unit transmit a selected image.

15. Claims 5, 16, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson in view of Yamagata.

Anderson discloses an image capture unit as described in the above rejection of claim 1. However, Anderson is silent with regard to compressing and encoding selected image data at a compression ratio different from the predetermined compression ratio and storing this data in a memory.

Yamagata discloses an image data re-compression device. The user uses release button 16 to select an image to be recompressed (column 5, lines 27-33). Image data already stored on IC memory card M in Figure 2 in a low compression mode may be expanded and recompressed at a higher rate (column 5, line 63 through column 6, line 1). The recompressed image data are stored in memory M. As stated in column 1, lines 39-42, this increases the recording efficiency of the memory. For this reason, it

would have been obvious to have Anderson's image capture unit recompress stored images at a rate higher than the rate at which the image was originally stored.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason T. Whipkey, whose telephone number is (703) 305-1819. The examiner can normally be reached Monday through Friday from 8 A.M. to 5:30 P.M. eastern daylight time, alternating Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy R. Garber, can be reached on (703) 305-4929. The fax phone number for the organization where this application or proceeding is assigned are (703) 872-9314 for both regular communication and After Final communication.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office, whose telephone number is (703) 306-0377.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

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or faxed to (703) 872-9314 for either formal or informal communications intended for entry. (For informal or draft communications, please label "**PROPOSED**" or "**DRAFT**".)

Hand-delivered responses should be brought to the sixth floor receptionist of Crystal Park II, 2121 Crystal Drive in Arlington, Virginia.

JTW

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July 23, 2002


TUAN HO
PRIMARY EXAMINER